

**REMARKS**

Applicants thank the Examiner for the courtesy of a telephonic interview on January 10, 2008. Applicants' representatives Frank R. Agovino and Mark Pitchford discussed the invention and the cited reference in general with Examiners Michael Newman and Samir Ahmed. In particular, Applicants discussed claims 1, 15, and 21 and the Tuli reference (U.S. Patent No. 5,942,761). No demonstration was given and no exhibit was shown. Although no agreement was reached with respect to the rejections under 35 U.S.C. § 102 and 35 U.S.C. § 103, the Examiners indicated in the telephonic interview that amendments such as "wherein the input device does not include a particular scan line in the compiled scan if the particular scan line has a pattern matching a pattern of a scan line previously included in the compiled scan" may overcome the Tuli reference, but further search and analysis would be required before a final decision.

Applicants have thoroughly considered the Examiner's remarks in the November 14, 2007 final Office action. Claims 1, 4, 9, 13-16, 18, 21, 25-27, and 30 have been amended by this Amendment B, claims 2-3, 5, 19-20, and 28 have been canceled, and new claim 31 has been added. Claims 1, 4, 6-18, 21-27, and 29-31 of the application are thus presented for further examination. Reconsideration of the application in light of the amendments to the claims and the following remarks is respectfully requested.

**Provisional Double Patenting Rejection**

Claims 1-30 stand provisionally rejected on the ground of non-statutory double patenting over claims 1, 11, and 23 of U.S. Patent Application Serial No. 10/722,795. Without conceding the propriety of the rejections of claims 1-30, Applicants will consider filing a terminal disclaimer to obviate these rejections when the present application is otherwise in condition for allowance.

**Claim Rejections Under 35 U.S.C. § 102**

Claims 21-28 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,942,761 to Tuli (hereinafter Tuli). Applicants submit that Tuli fails to teach each and every element of the claims as amended.

Applicants submit that Tuli teaches scanning as a function of position and does not teach capturing scan lines as a function of time, independent of movement of the platen. More specifically, Tuli teaches that a scan line is captured in response to sensing a transition of a pattern monitored by the sensor array (see Tuli at Col. 6, Lines 47-67). Thus, Tuli captures based on position. In contrast to the cited art, embodiments of the present invention capture scan lines based on time such that said line capture is **independent** of the movement or position of the platen. Further, when later compiling a biometric image from the captured lines, embodiments of the invention **do not include** (i.e., disregard) lines that repeat a line already added to a compiled image of the scanned fingerprint (see Application at paragraph [0090]-[0093]). Since Tuli captures based on position, redundant scans are not captured because only one scan per position is captured. In contrast, the invention captures one scan per period of time so that two scans could be redundant if the scans occur at the same position. Thus, Tuli does not address the handling of redundant scans.

To this end, claim 21 recites, "...sensing movement of the platen relative to the housing wherein the step of sensing movement of the platen activates a scan head mounted to the housing, **said scan head capturing scan lines depending on the time of capture** as the platen is moved from a first position to a second position, wherein said platen includes an encoder target having a non-repeating set of patterns and wherein each scan line captured by the scan head includes a scan line of the biometric image of the fingertip together with a pattern of the encoder target, and wherein the fingertip provides movement of the platen relative to the housing; monitoring scan lines captured by the scan head until a predetermined pattern is detected in a scan line captured by the scan head; in response to the detection of the predetermined pattern, processing and assembling a plurality of captured scan lines of the biometric image of the fingertip, wherein processing and assembling further comprises ordering each of the plurality of scan lines as a function of the pattern included in each scan line, and wherein processing and assembling further comprises **not including a particular scan line** in the processed and assembled scan if the particular scan line has a pattern matching a pattern of a scan line previously included in the scan...."

Antecedent basis for the above amendments can be found in the Application, for example, at paragraphs [0090]-[0092]. To have multiple scans at a single position but with

different time of captures as described in these paragraphs, the scanning device necessarily scans as a function of time. Additionally, these paragraphs describe processing and assembling (i.e., compiling) an image from a collection of scan lines by ignoring multiples of a particular scan line (particularly paragraph [0092]).

Additionally, Tuli only teaches an alarm and does not teach providing **tactile** feedback to the finger touching the platen in response to the platen actuation an end of scan sensor when the platen has reached its end position. Tactile feedback is beneficial in embodiments of the present invention because it informs the user that the platen has reached the second position via the finger driving the platen and via the finger that is being scanned. That is, the finger through which feedback is provided to the user is receptive to feedback from the platen because it is holding the platen in the second (i.e., end) position. Embodiments of the invention provide tactile feedback to the fingertip of a user in response to the platen being in the second (i.e., end of scan) position and actuating an end of scan switch, not in response to the platen contacting a stop as it reaches the second position. To this end, claim 21 recites, "... providing tactile feedback to the fingertip providing movement to the platen **when the platen is in the second position, in response to actuation of an end of scan switch** of the input device by the platen."

Thus, the cited reference fails to teach each and every element of claim 21. None of the other cited references cure the defects of Tuli. Claim 21 is therefore allowable over the cited art. Claims 22-27 depend from claim 21 and are allowable over the cited art for at least the same reasons as the independent claim from which they depend.

### **Claim Rejections Under 35 U.S.C. § 103**

Claims 1-15, 17, 19, 29, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tuli in view of U.S. Patent No. 7,162,060 to Barton et al. (hereinafter Barton). Applicants submit that the cited references fail to teach or disclose all of the elements of the claims as amended.

As explained above, Tuli fails to teach capturing scan lines **as a function of time** (i.e., independent of a position of the platen). Neither Barton nor any of the other cited references cure this defect of Tuli. In contrast, claim 1 recites, "... a platen moveably mounted to the housing for movement relative to the housing and the scan head by the fingertip between a first

position and a second position, wherein the **scan head captures scan lines depending on the time of capture** as the platen is moved from the first position to the second position...." Claim 15 recites, "... a scan head, the scan head being configured to scan a pattern of the encoder target and to capture a scan line of the biometric image of the fingertip together with a pattern of the encoder target, wherein the **scan head captures scan lines depending on the time of capture** as the platen is moved from the first position to the second position...." Thus the cited references fail to teach or disclose each and every element of the claims as amended.

Additionally, the cited references fail to teach compiling (i.e., processing and assembling) an image from a plurality of scan lines by ordering the scan lines as a function of a pattern of the encoder target included in each scan line and **not including** captured scan lines having a pattern matching the pattern of a scan line already included in the compiled image. In contrast, claim 1 recites, "... wherein the input device processes and assembles the scan of the biometric image from a plurality of scan lines captured by the scan head by ordering each of the plurality of scan lines as a function of the pattern included in each scan line, and wherein the input device does not include a particular scan line in the processed and assembled scan if the particular scan line has a pattern matching a pattern of a scan line previously included in the processed and assembled scan." Claim 15 recites, "... wherein the input device processes and assembles the scan of the biometric image from a plurality of scan lines captured by the scan head by ordering each of the plurality of scan lines as a function of the pattern included in each scan line and wherein the input device does not include a particular scan line in the processed and assembled scan if the particular scan line has a pattern matching a pattern of a scan line previously included in the processed and assembled scan...."

The cited references generally teach alarms but fail to teach providing **tactile** feedback to the finger touching the platen when the platen reaches the end of the scan. In contrast, claim 1 recites, "... a platen moveably mounted to the housing for movement relative to the housing and the scan head by the fingertip between a first position and a second position... an end of scan switch configured to be actuated when the platen is in the second position, wherein the actuation of the end of scan switch is configured to provide tactile feedback to the ...." Claim 15 recites, "... a platen moveably mounted to the housing for movement relative to the housing by the fingertip between a first position and a second position; an end of scan switch configured to be

actuated when the platen is in the second position, wherein the actuation of the end of scan switch is configured to provide tactile feedback to the fingertip ...."

The cited references also fail to teach activating a start of scan sensor which causes the input device to emit an audible tone when the platen moves out of the first position indicating the beginning of a new scan. Neither Tuli nor Barton make any kind of reference to any indication to a user that a live scan has been initiated. At pages 13-14 of the Office action, the Examiner asserts that U.S. Patent No. 5,467,198 to Aosaki et al. (hereinafter Aosaki) teaches a scanning system that provides an alarm when the sensor reaches its initial position and the system is ready to begin a scan. The Examiner does not assert that Aosaki teaches providing an audible indication to a user that the scanning system has begun capturing scan lines as claimed in the present Application. In contrast to the cited art, claim 15 recites, "... a start of scan sensor having a first state and a second state, wherein movement of the platen away from the first position changes the state of the start of scan sensor and wherein the input device emits an audible tone in response to changing the state of the start of scan sensor."

Thus, none of the cited references alone or in combination teach or disclose each and every element of claims 1, 15, and 21 as amended. Claims 1, 15, and 21 are allowable over the cited art, and claims 4, 6-14, 16-18, 22-27, and 29-31 depend from these claims and are allowable for at least the same reasons as the independent claims from which they depend.

Claims 16 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tuli in view of Barton in view of U.S. Patent No. 6,178,255 to Scott et al. (hereinafter Scott). Scott teaches a platen having a non-repeating set of patterns wherein the platen is driven by a set of motors. Scott is directed to enabling better image analysis techniques by providing position references in images (see Scott, for example, at Col. 2, Lines 28-44). Scott fails to cure the defects of Tuli and Barton explained above. Claims 16 and 18 depend from claim 15 and are allowable over the cited art for at least the same reasons as claim 15.

Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tuli in view of Barton in view of U.S. Patent No. 5,467,198 to Aosaki et al. (hereinafter Aosaki). As explained above, Aosaki fails to cure the defects of Tuli and Barton with respect to the present Application. Claim 20 has been canceled.

Thus, the cited references fail to teach each and every element of claims 1 and 15. Claims 1 and 15 are therefore allowable over the cited art. Claims 4, 6-14, 16-18, and 31 depend from these claims and are allowable over the cited art for at least the same reasons as the independent claim from which they depend.

### CONCLUSION

In view of the foregoing, Applicants submit that independent claims 1, 15, and 21 are allowable over the cited art. Claims 4, 6-14, 16-18, 22-27, and 29-31 depend from these claims and are believed to be allowable for at least the same reasons as the independent claims from which they depend.

It is felt that a full and complete response has been made to the Office Action, and Applicants respectfully submit that pending claims 1, 4, 6-18, 21-27, and 29-31 are allowable over the cited art and that the subject application is now in condition for allowance. The fact that Applicants may not have specifically traversed any particular assertion by the Examiner should not be construed as indicating Applicants' agreement therewith.

**The Applicants wish to expedite prosecution of this application. If the Examiner deems the application to not be in condition for allowance, the Examiner is invited and encouraged to telephone the undersigned to discuss making an Examiner's amendment to place the application in condition for allowance.**

Applicants do not believe that a fee is due in connection with this response. If, however, the Commissioner determines that a fee is due, the Commissioner is authorized to charge Deposit Account No. 19-1345.

Respectfully submitted,

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